

Research Report 1231

LEVEL *AK*

12

ADA081975

**THE EFFECT OF EVALUATOR ATTITUDES ON
SUBJECTIVE RATINGS OF UNIT STRUCTURE
IN PHASE II OF THE "RESTRUCTURING OF
THE HEAVY DIVISION" TEST**

Edwin R. Smutz

ARI FIELD UNIT AT FORT HOOD, TEXAS

DTIC
ELECTE
MAR 19 1980
D



U. S. Army

Research Institute for the Behavioral and Social Sciences

September 1979

Approved for public release; distribution unlimited.

80 18 013

U. S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

**A Field Operating Agency under the Jurisdiction of the
Deputy Chief of Staff for Personnel**

**JOSEPH ZEIDNER
Technical Director**

**WILLIAM L. HAUSER
Colonel, U S Army
Commander**

NOTICES

DISTRIBUTION: Primary distribution of this report has been made by ARI. Please address correspondence concerning distribution of reports to: U. S. Army Research Institute for the Behavioral and Social Sciences, ATTN PERI-P, 5001 Eisenhower Avenue, Alexandria, Virginia 22333.

FINAL DISPOSITION: This report may be destroyed when it is no longer needed. Please do not return it to the U. S. Army Research Institute for the Behavioral and Social Sciences.

NOTE: The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

DD FORM 1473 EDITION OF 1 NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

~~Unclassified~~

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

Evaluators gave to various aspects of the concept during the course of the field test. The results showed that in the process of evaluating the division restructuring concept, many evaluators shifted from a neutral position regarding whether the H-TOE or the T-TOE was the better unit structure to a position showing a definite preference for one TOE over the other. However, statistical analyses did not show any relationship between evaluators' pretest attitude scores and evaluators' ratings of unit structure in the field test. It was concluded that evaluator subjective ratings of various aspects of the division restructuring concept in the field test were not a function of any positive or negative personal attitudes that the evaluators might have held prior to the DRS test.

Accession For	
WHS	GRA&I
DDC TAB	
Unannounced	
Publication	
By	
Institution/	
Availability Codes	
Dist	Avail and/or special
A	

Unclassified

11 SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

**THE EFFECT OF EVALUATOR ATTITUDES ON
SUBJECTIVE RATINGS OF UNIT STRUCTURE
IN PHASE II OF THE "RESTRUCTURING OF
THE HEAVY DIVISION" TEST**

Edwin R. Smutz

**Submitted by:
George M. Gividen, Chief
ARI FIELD UNIT AT FORT HOOD, TEXAS**

Approved by:

**Milton S. Katz, Acting Director
ORGANIZATIONS AND SYSTEMS
RESEARCH LABORATORY**

**U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES
5001 Eisenhower Avenue, Alexandria, Virginia 22333**

**Office, Deputy Chief of Staff for Personnel
Department of the Army**

September 1979

**Army Project Number
2Q263743A775**

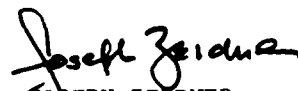
**Human Performance
in Field Assessment**

Approved for public release; distribution unlimited.

ARI Research Reports and Technical Reports are intended for sponsors of R&D tasks and for other research and military agencies. Any findings ready for implementation at the time of publication are presented in the last part of the Brief. Upon completion of a major phase of the task, formal recommendations for official action normally are conveyed to appropriate military agencies by briefing or Disposition Form.

FOREWORD

The use of subjective evaluations in assessing the value of a concept has inherent within it the risk of incorrect conclusions because of the effects of bias from various personal feelings that evaluators may hold with respect to the concept. The present report presents the results of an investigation to determine whether this was a determining factor in the results of the Restructuring of the Heavy Division Test (FT 382A). The research was conducted by the Army Research Institute for the Behavioral and Social Sciences, Fort Hood Field Unit, in response to a Human Resources Need sponsored by the TRADOC Combined Arms Test Activity (TCATA). The work was carried out under Army Project 2Q263743A775, FY 78 and FY 79 Work Programs, Human Performance in Field Assessment, and occurred concurrently with Phase II of the Restructuring of the Heavy Division Test (FT 382A) in August and September, 1978, at Fort Hood, Texas. This report supplements the TCATA report from that project.


JOSEPH ZELDNER
Technical Director

THE EFFECT OF EVALUATOR ATTITUDES ON SUBJECTIVE RATINGS OF UNIT STRUCTURE
IN PHASE II OF THE "RESTRUCTURING OF THE HEAVY DIVISION" TEST

BRIEF

REQUIREMENT

This report presents the results of a research effort which was conducted in response to a request by the TRADOC Combined Arms Test Activity (TCATA) that ARI investigate the influence of evaluator bias on the results of the Restructuring of the Heavy Division Test, Phase II (FT 382A). More specifically, there was a need to determine whether or not field test evaluators held pretest attitudes toward the restructuring concept, and if so, to determine the extent and manner in which these attitudes influenced the ratings which the evaluators gave to various aspects of the concept during the course of the field test.

PROCEDURE:

A questionnaire was administered to those individuals who served as evaluators in the Division Restructuring (DRS) test in order to measure their attitudes toward the division restructuring concept. The questionnaire was first administered prior to the beginning of the field trials of the test, and then again after the field trials were completed and the evaluators had completed their evaluations of units which were structured along DRS lines. Data from the questionnaires and the evaluations were then analyzed to determine how evaluator attitudes changed as a result of experience with the division restructuring concept, and, more importantly, to determine to what extent given pretest attitudes were associated with positive or negative ratings of various aspects of the division restructuring concept.

FINDINGS:

- In the process of evaluating the division restructuring concept, many evaluators shifted from a neutral position regarding whether the H-TOE or the T-TOE was the better unit structure to a position showing a definite preference for one TOE over the other.

- Statistical analyses did not show any relationship between evaluators' pretest attitude scores and evaluators' ratings of unit structure in the field test.

● It was concluded that evaluator subjective ratings of various aspects of the division restructuring concept in the field test were not a function of any positive or negative personal attitudes that the evaluators might have held prior to the DRS test.

UTILIZATION OF FINDINGS:

These findings supplement the TCATA report from the field test of the Restructuring of the Heavy Division Test, Phase II (FT 382A), and were used in determining the validity of evaluator ratings in that test.

THE EFFECT OF EVALUATOR ATTITUDES ON SUBJECTIVE RATINGS OF UNIT STRUCTURE
IN PHASE II OF THE "RESTRUCTURING OF THE HEAVY DIVISION" TEST

CONTENTS	Page
INTRODUCTION	1
METHOD	2
RESULTS	5
Attitude Change Over Time	5
Relationship Between Attitudes and Field Evaluations	6
CONCLUSIONS	7
APPENDIXES	
Appendix A. Division Restructuring Study (DRS) Opinion Survey . . .	9
B. Questions from the Field Test Which Required Subjective Evaluations Using a Rating Scale and Were Included as Part of the Analysis of the Present Report	15
C. Questions From the Test Which Required Subjective Evaluation in the Form of a "Yes" or "No" Response, and Were Included as Part of the Analysis of the Present Report	25

THE EFFECT OF EVALUATOR ATTITUDES ON SUBJECTIVE RATINGS OF UNIT STRUCTURE
IN PHASE II OF THE "RESTRUCTURING OF THE HEAVY DIVISION" TEST

INTRODUCTION

The attitudes which an individual holds with respect to a given concept can potentially be very potent determiners of his subjective evaluation of that concept in a test situation, thus preventing an objective assessment of the concept. This problem was of particular concern in the Restructuring of the Heavy Division Test (FM 382) because of the importance of the concept and because of the familiarity most Army evaluators already have with division organization.

This problem was initially investigated by the Army Research Institute (ARI) during Phase I of the Division Restructuring (DRS) test, conducted by TCATA (TRADOC Combined Arms Test Activity) in October, November, and December of 1977 at Ft. Hood, Texas. An instrument was developed to measure evaluator pretest attitudes toward the DRS concept and the results were compared to the subjective ratings which the evaluators gave to various aspects of the concept in order to determine if the two were associated in some way. It was found at that time that the pretest attitudes which a test evaluator held toward the division restructuring concept were not predictive of the ratings that the evaluator eventually gave to those aspects of the concept which he was responsible for subjectively evaluating.¹ Even though most evaluators did demonstrate positive or negative feelings toward the DRS concept before the test began, they were, nevertheless, able to evaluate the concept rather objectively without being influenced by these personal feelings.

In order to determine whether this finding would also characterize the evaluators who were used in the second phase of the DRS test (conducted by TCATA in September of 1978 at Ft. Hood, Texas), the ARI field unit at Fort Hood conducted an investigation similar to the one conducted in Phase I of the test. The purpose was to measure DRS attitudes held by the evaluators and to determine if they influenced the subjective ratings made by the evaluators during the test. This paper reports the results of that investigation.

¹Smutz, E.R. and Actkinson, T.R. Evaluator Attitudes Toward T-TOE and H-TOE Unit Structures in the Maneuver Battalion Phase of the "Restructuring of the Heavy Division" Test. ARI Research Problem Review 79-4, March 1979.

METHOD

The instrument which was used to measure evaluator attitudes toward the division restructuring concept was identical to that used in Phase I of the DRS test. The instrument was a relatively short questionnaire, of which there were two forms; A and B. Form A is shown in Appendix A. Form B differed only in that the answers to the questions were reversed.

As mentioned in the previous report of Phase I, it should be recognized that this questionnaire was not validated to determine if it accurately measured attitudes toward the T-TOE (TOE based on the division restructuring concept) and the H-TOE (current unit TOE) unit structures. No criterion group existed that could be used to validate the instrument. However, the logical development of the instrument dictated the inclusion of questions from each functional element of combat, viz. combat maneuver, combat support, combat service support, and command and control. Thus, the instrument had a high degree of face validity.

The questionnaire was administered to individuals who served as evaluators in the second phase of the DRS test. The rank of these evaluators ranged from Sergeant to Lieutenant Colonel. The first administration was on 28 August 1978 while the evaluators were inprocessing and learning what their duties as evaluators in the DRS test would be. The questionnaire was administered a second time on 28 September 1978, after the field trials of the test were completed. The purpose of the second administration was for the purpose of determining how evaluator attitudes toward the DRS concept changed as a result of evaluating various aspects of it. It should be noted that this latter consideration was only of secondary importance in this study. Of primary importance was the determination of whether or not pretest attitudes toward the division restructuring concept influenced subjective evaluations of the concept during the test.

Of 206 evaluators and data collectors who were in positions requiring that they make subjective evaluations in the test, 128 (62%) completed the questionnaire on both the first and second administrations. These samples are of sufficient magnitude so as to allow for generalization of the results to all of the evaluators as a whole.

Analysis of the questionnaires was accomplished by assigning numerical values to each question in a questionnaire as follows: H series is much better = -2; H series is better = -1; No difference or Don't Know = 0; T series is better = +1; T series is much better = +2. Summing values across each question in a given questionnaire and calculating the mean resulted in a numerical score which represented an evaluator's attitude toward unit structure. A negative value represented a favorable attitude toward the H series type of organization, a positive value represented a favorable attitude toward the T series type of organization, and a 0 value represented an attitude which favored neither type of organization.

over the other. An evaluator's attitude toward unit structure was calculated for each administration of the questionnaire.

In order to answer the primary question of whether or not evaluators' attitudes toward the DRS concept influenced their subjective evaluations of aspects of the T series unit structure during the DRS test, two statistical measures were used. Spearman's rank order correlation coefficients were calculated to measure the degree of association between attitude scores from the first administration of the questionnaire and ratings on selected questions from the data collection forms used in the test requiring the use of either 5 or 7 category rating scales. A total of 82 correlation coefficients were calculated on 59 different questions. These questions are listed in Appendix B.

For questions which required a dichotomous "yes" or "no" response from the evaluator, Fisher's exact probability test was used to determine if those evaluators who favored the T series organization gave more "yes" or more "no" responses to a given question than evaluators who favored the H series structure or who favored neither structure over the other. Seven of these analyses were computed on the seven questions listed in Appendix C.

Many of the field test questions were answered by the evaluators twice a day (once in the morning and once in the afternoon) for all eight days of the test. Data that were analyzed in this report were from test questions sampled at various times throughout the field test. For example, questions 6a, 6b, and 6c from Form M-12-1 were sampled as follows: Question 6a - September 22, morning; Question 6b - September 22, afternoon; Question 6c - September 23, morning; Question 6a - September 23, afternoon; etc. Thus, the overall analysis included questions concerned with various aspects of the DRS concept which were answered at various times throughout the conduct of the DRS test.

Data from some of the evaluators were not analyzed using the above mentioned statistical methods. The reasons for this included: 1) there were not enough evaluators in some areas answering the same question at a given time to perform any meaningful statistical analysis (as was the case, for example, with the Redeye evaluators, of which there were only four), and 2) one group of evaluators all showed essentially a neutral attitude toward the DRS concept. This latter point characterized the ammunition evaluators, ten of which had pretest attitude scores of 0, with just two having scores somewhat in favor of the T series organization.

Nevertheless, the analyses that were performed for this report included over half of the evaluators involved in the test (112 out of 206), and consequently the results can be generalized to all of the evaluators as a whole.

It should also be noted that while not all of the questions calling for a subjective rating were analyzed, those questions which were analyzed were representative of the type of subjective questions used throughout the test and thus the assumption was made that the results would apply to other subjective questions in the test.

RESULTS

ATTITUDE CHANGE OVER TIME

Table 1 summarizes the results from the attitude questionnaire. It can be seen that before the test began almost half of the evaluators (48%) showed no preference for one type of organization over the other, while the remaining evaluators were about evenly divided in their preference for the T-TOE (29%) and the H-TOE (23%) unit structures. Furthermore, the magnitude of the preference for one TOE over the other was the same, on the average, for both of the groups showing a preference; viz. +0.71 for the group which preferred the T-TOE type of organization and -0.71 for the group which preferred the H-TOE type of organization. These represent mild preferences for either the T-TOE or H-TOE unit structures.

Table 1. Number And Percent of Evaluators Who Favored Either The T Series TOE, The H Series TOE, or Neither TOE. Average Attitude Scores for Each Group Are Also Presented.

		<u>PRETEST RESULTS</u>		<u>POSTTEST RESULTS</u>	
		<u>Number of Evaluators</u>	<u>Average Attitude Score</u>	<u>Number of Evaluators</u>	<u>Average Attitude Score</u>
TOE Structure Which Was Favored	T-TOE	37 (29%)	+ 0.71	41 (37%)	+ 0.69
	Neither	62 (48%)	0.00	14 (11%)	0.00
	H-TOE	29 (23%)	-0.71	67 (52%)	-0.91
Total		128		128	
Overall Average			+ 0.04		-0.22

By the end of the test the feelings of the evaluators had changed to some extent. Only a few of them (11%) showed no preference for a given TOE, while half of them (52%) had come to prefer the H-TOE unit structure (average score = -0.91) and the remainder (37%) had come to prefer the T-TOE unit structure (average score = +0.69). A chi-square test showed that this change over time in the proportion of evaluators showing a preference for a given TOE was statistically significant ($\chi^2(2)=45.96; p<0.001$).

It should be noted that these results parallel those obtained in Phase I of the DRS test in that the proportion of individuals who were neutral in their feelings toward the DRS concept decreased as those individuals gained experience with the concept. However, the present results differ from those of the earlier study in that more evaluators came to prefer the H-TOE structure over the T-TOE structure in the present study, whereas just the opposite was true in the previous study, i.e. more evaluators preferred the T-TOE structure over the H-TOE structure. Also, statistical analysis did not show the magnitude of the preference within each group to change across administrations, as was the case in the previous study.

The average preference of all of the evaluators paralleled the change in proportion of evaluators showing a preference for a given TOE. On the first questionnaire administration, given before the test began, the average attitude score was +0.04, indicating no significant preference, overall, for one type of TOE organization over the other. However, the results of the second administration, after the DRS concept had been thoroughly evaluated, showed a statistically significant change in the direction of a preference (average score = -0.22) for the H-TOE type of organization ($H_0: \mu=0; t(127)=2.75; p<0.01$).

Thus, the present results generally confirm the results from Phase I in that more and more individuals came to have positive or negative feelings toward a given type of organization as they gained experience with that organization. However, they differed from the previous results in the direction of the evaluators' final preferences; viz. in favor of the T-TOE unit structure in Phase I, but in favor of the H-TOE unit structure in Phase II.

RELATIONSHIP BETWEEN ATTITUDES AND FIELD EVALUATIONS

No statistically significant relationship was shown to exist between pretest attitude scores and subjective evaluations made in the field test. Out of 89 correlation coefficients that were computed on such data, only two reached statistical significance at the 0.05 level of probability. This is no greater than what one might expect by chance alone when computing statistical analyses on such a large number of sets of data.

Similar results were obtained with the analyses using Fisher's exact probability test, where none of the analyses were significant at the 0.05 level of probability.

Thus, from the above results, one has no basis for concluding that there was a relationship between pretest evaluator attitudes toward a given TOE and evaluator subjective evaluations during the test. This finding confirms the findings from the previous report from Phase I of the DRS test.

CONCLUSIONS

This study's major purpose was to determine whether or not evaluators of the Division Restructuring Test, Phase II, had positive or negative attitudes toward the TOEs which they were evaluating, and if so, to determine whether or not these feelings influenced the ratings they gave on questions calling for subjective evaluations in the test.

Furthermore, there was a need to determine whether the answers to these same questions in the report from Phase I of the DRS test were confirmed or disconfirmed.

The general results from this study confirm those from the Phase I study. In both cases many individual evaluators had definite positive or negative attitudes about TOE structure before the test began and more and more evaluators developed such feelings as the test progressed. However, the pretest attitudes of the evaluators had no demonstrable effect on evaluator ratings in either Phase I or Phase II of the DRS test.

APPENDIX A

DIVISION RESTRUCTURING STUDY (DRS)

OPINION SURVEY

(Form A)

DATA REQUIRED BY THE PRIVACY ACT OF 1974

TITLE: DRS Opinion Survey

PRESCRIBING DIRECTIVE: AR 70-1

AUTHORITY: 10 USC Sec 4503

PURPOSE(s): The data collected with the attached form are to be used for research purposes only.

This is a data collection form developed by the U.S. Army Research Institute for the Behavioral and Social Sciences pursuant to its research mission as prescribed in AR 70-1. When identifiers (e.g., name) are requested they are to be used for administrative and statistical control purposes only. Full confidentiality of the responses will be maintained in the processing of these data.

OPINIONS OF TOE STRUCTURES

NAME _____

RANK _____

Please answer the following questions as accurately and as honestly as you can. For each question, circle the letter in front of the answer that best represents your opinion at the present time.

Remember that Army units are currently organized according to the H series TOE, while the restructured units will be organized according to a T series TOE.

1. Which type of TOE structure (H series TOE or T series TOE) do you think has better combat maneuver capabilities?

- a. H series is much better.
- b. H series is better.
- c. There is no difference between H series and T series.
- d. T series is better.
- e. T series is much better.

f. Don't know.

2. Which type of TOE structure do you think is better organized for combat support (to include mortars, artillery, ADA, engineers)?

- a. H series is much better.
- b. H series is better.
- c. There is no difference between H series and T series.
- d. T series is better.
- e. T series is much better.

f. Don't know.

3. Which type of TOE structure do you think has the better combat service support system (to include administration, supply, maintenance, medical support)?

- a. H series is much better.
- b. H series is better.
- c. There is no difference between H series and T series.
- d. T series is better.
- e. T series is much better.

f. Don't know.

4. Which type of TOE structure do you think provides for better command and control?

- a. H series is much better.
- b. H series is better.
- c. There is no difference between H series and T series.
- d. T series is better.
- e. T series is much better.

f. Don't know.

5. Which type of TOE structure do you think is better in overall combat effectiveness?

- a. H series is much better.
- b. H series is better
- c. There is no difference between H series and T series.
- d. T series is better.
- e. T series is much better.
- f. Don't know.

APPENDIX B

Questions from the Field Test Which Required
Subjective Evaluations Using a Rating Scale
and Were Included as Part of the
Analysis of the Present Report

I. Questions from field test data collection form M-12-1: Brigade/
Battalion Communications. (Completed by "maneuver" evaluators)

6. Fill in number from scale at right which best describes overall
communications during the reporting period.

- | | |
|-------------------------------|------------------|
| a. With subordinates? _____ | 1. Very poor |
| b. With adjacent units? _____ | 2. Poor |
| c. With higher Hq? _____ | 3. Somewhat poor |
| | 4. Neutral |
| | 5. Somewhat good |
| | 6. Good |
| | 7. Very good |

II. Questions from field test data collection form M-12-2: Effects of
Jamming. (Completed by "maneuver" evaluators)

7. Describe the jamming effects and the unit's performance during
the period of jamming by filling in the appropriate code from
the table at right which best describes.

- | | |
|---|------------------|
| a. How well did the unit you are
assigned to perform its mission
during jamming? _____ | 1. Very poor |
| b. The use of unit SOP to over-
come jamming was? _____ | 2. Poor |
| c. The method employed by the unit
to overcome jamming was? _____ | 3. Somewhat poor |
| d. <u>If you were the enemy</u> doing the
jamming, how would you rate your
own jamming effect on the
friendlylies? _____ | 4. Neutral |
| | 5. Somewhat good |
| | 6. Good |
| | 7. Very good |

III. Questions from field test data collection form M-14-3: Supply of the Unit. (Completed by "maneuver" evaluators)

1. From the table at the right fill in the number which describes resupply of your unit during this 4 hour period.

- | | |
|--|------------------|
| a. Ammunition supply adequacy was _____ | 1. Very poor |
| b. Ration supply adequacy was _____ | 2. Poor |
| c. Major end item equipment (e.g., a complete tank, APC, TOW launcher) supply adequacy was _____ | 3. Somewhat poor |
| | 4. Neutral |
| | 5. Somewhat good |
| | 6. Good |
| | 7. Very good |
| d. Small arms resupply adequacy was _____ | |
| e. Fuel resupply adequacy was _____ | |
| f. Water resupply adequacy was _____ | |

IV. Questions from field test data collection form M-14-4: Maintenance in the unit. (Completed by "maneuver" evaluators)

1. From the table at the right fill in the number which describes resupply of your unit during this 4 hour period.

- | | |
|--|------------------|
| a. Adequacy of maintenance on major end item weapon (less TOWs) was _____ | 1. Very poor |
| | 2. Poor |
| | 3. Somewhat poor |
| b. Adequacy of maintenance on wheeled vehicles was _____ | 4. Neutral |
| | 5. Somewhat good |
| | 6. Good |
| | 7. Very good |
| c. Adequacy of maintenance on small arms (less mortars) was _____ | |
| d. Adequacy of maintenance on APCs was _____ | |
| e. Adequacy of maintenance on tanks (less tank gun and machine guns) was _____ | |
| f. Adequacy of maintenance on radios was _____ | |
| g. Adequacy of maintenance on TOWs was _____ | |
| h. Adequacy of maintenance on mortars was _____ | |

V. Questions from field test data collection form S-2-8: Effectiveness of SOP. (Completed by "maintenance" evaluators)

2. Effectiveness of the SOP. (Fill in appropriate number from the scale at right)

- | | |
|---|------------------|
| a. How well versed are key leaders in the SOP use? _____ | 1. Very poor |
| | 2. Poor |
| b. Whether used or not, how effective are the SOP contents in assisting the DRS unit to perform the mission of: _____ | 3. Somewhat poor |
| | 4. Neutral |
| | 5. Somewhat good |
| | 6. Good |
| | 7. Very good |

(1) Offense? _____

(2) Defense? _____

c. How effectively was it actually used during this period? _____

VI. Questions from field test data collection form S-3-30: Operational Performance Report. (Completed by "artillery" evaluators)

4. Overall, how well do you feel that the batteries conducted tactical operations?

_____ Very well
_____ Well
_____ Borderline
_____ Poorly
_____ Very poorly

VII. Questions from TCATA Post-test Questionnaire: Field Artillery System. (Completed by Artillery evaluators)

64. Estimate the effectiveness of the direct support field artillery battalion to perform the required tactical operations comprising its mission. (Choose one)

Mission effectiveness

Very effective _____
Effective _____
Borderline _____
Ineffective _____
Very ineffective _____

65. Compared with the H-Series DS battalion, is the T-series FA battalion more or less capable of performing its tactical operations?

Relative capability

Much more _____
More _____
No difference _____
Less _____
Much less _____

66. Estimate the adequacy of the DS field artillery battalion to deliver fires in meeting the requirements for fire support.
(Choose one)

Fire support adequacy

Very adequate _____
Adequate _____
Borderline _____
Inadequate _____
Very inadequate _____

67. Compared with the H-Series DS battalion, is the T-Series FA battalion more or less responsive in delivering fire support?

Relative responsiveness

Much more _____
More _____
No difference _____
Less _____
Much less _____

68. Estimate the capability of the field artillery system to perform timely and effective fire support coordination.

Very capable _____
Capable _____
Borderline _____
Incapable _____
Very incapable _____

69. Estimate the capability of the field artillery system to perform timely and effective fire planning.

Very capable _____
Capable _____
Borderline _____
Incapable _____
Very incapable _____

70. Estimate the capability of the field artillery system to perform timely and effective integration of fire support with maneuver and intelligence.

Very capable _____
Capable _____
Borderline _____
Incapable _____
Very incapable _____

71. Compared with the H-Series DS battalion, is the T-Series FA battalion more or less capable of performing timely and effective fire support coordination?

Relative capability

Much More _____
More _____
No difference _____
Less _____
Much less _____

72. Compared with the H-Series DS battalion, is the T-Series FA battalion more or less capable of performing timely and effective fire planning?

Relative capability

Much more _____
More _____
No difference _____
Less _____
Much less _____

73. Compared with the H-Series DS battalion, is the T-Series FA battalion more or less capable of performing timely and effective integration of fire support with maneuver and intelligence?

Relative capability

Much more _____
 More _____
 No difference _____
 Less _____
 Much less _____

VIII. Questions from TCATA Post-test Questionnaire: Combat Service Support System. (Completed by combat service support evaluators)

Estimate how practical the DKS maintenance and supply concepts are for maneuver and combat support units. (Choose one for each type of function for each type of unit)

	Maneuver units		Combat Spt units	
	79	80	81	82
	Maint	Supply	Maint	Supply
	<u>Concept</u>	<u>Concept</u>	<u>Concept</u>	<u>Concept</u>
Very practical	_____	_____	_____	_____
Practical	_____	_____	_____	_____
Borderline	_____	_____	_____	_____
Impractical	_____	_____	_____	_____
Very impractical	_____	_____	_____	_____

Estimate the effectiveness of the maintenance and supply systems in the maneuver and combat support units. (Choose one for each type of system, for each type of unit)

	Maneuver units		Combat Spt units	
	83	84	85	86
	Maint	Supply	Maint	Supply
	<u>System</u>	<u>System</u>	<u>System</u>	<u>System</u>
Very effective	_____	_____	_____	_____
Effective	_____	_____	_____	_____
Borderline	_____	_____	_____	_____
Ineffective	_____	_____	_____	_____
Very ineffective	_____	_____	_____	_____

87. Estimate the level of efficiency of the consolidated feeding system. (Choose one)

Very efficient _____
Efficient _____
Borderline _____
Inefficient _____
Very inefficient _____

88. Estimate the level of effectiveness of the consolidated feeding system. (Choose one)

Very effective _____
Effective _____
Borderline _____
Ineffective _____
Very ineffective _____

89. Compared to the previous manner of field feeding, is the consolidated feeding system more or less efficient?

Much more efficient _____
More efficient _____
No difference _____
Less efficient _____
Much less efficient _____

90. Compared to the previous manner of field feeding, is the consolidated feeding system more or less effective?

Much more effective _____
More effective _____
No difference _____
Less effective _____
Much less effective _____

92. Estimate the adequacy of your unit's water storage capacity.

Very adequate _____
Adequate _____
Borderline _____
Inadequate _____
Very inadequate _____

93. Compared to the H-Series organization, is the T-Series unit's water storage capacity more or less?

Excessive	_____
More	_____
No difference	_____
Less	_____
Much less	_____

(b. Class III)

94. How adequate is the distribution system for fueling forward in brigade areas? (Choose one)

Very adequate	_____
Adequate	_____
Borderline	_____
Inadequate	_____
Very inadequate	_____

103. Compared to the H-Series organization for logistical support (HHC and CSC), is the T-Series organization (CSS Co and Maint Co) more or less effective?

Much more	_____
More	_____
No difference	_____
Less	_____
Much less	_____

IX. Questions from TCATA Post-test Questionnaire: NBC Defense.
(Completed by NBC evaluators)

(b. NBC Defense Company)

104. What was the capability of the NBC Defense Platoon during the test to perform decontamination and NBC recon functions? (Choose one of each function observed)

	<u>Decontamination Function</u>	<u>NBC Recon Function</u>
Very capable	_____	_____
Capable	_____	_____
Borderline	_____	_____
Incapable	_____	_____
Very incapable	_____	_____

105. Estimate the adequacy of the NBC Defense Platoon in general to provide decontamination and NBC recon support to the Brigade during actual NBC operations. (Choose one for each function)

	<u>Decontamination Function</u>	<u>NBC Recon Function</u>
Very adequate	_____	_____
Adequate	_____	_____
Borderline	_____	_____
Inadequate	_____	_____
Very inadequate	_____	_____

106. What was the capability of the NBC Defense Platoon during the test to provide shower point services? (Choose one)

Very capable	_____
Capable	_____
Borderline	_____
Incapable	_____
Very incapable	_____

107. Estimate the adequacy of the NBC Defense Platoon in general to provide shower point and clothing exchange services for the Brigade during combat.

	<u>Shower Point Service</u>	<u>Clothing Exchange Service</u>
Very adequate	_____	_____
Adequate	_____	_____
Borderline	_____	_____
Inadequate	_____	_____
Very inadequate	_____	_____

APPENDIX C

Questions From the Test Which Required
Subjective Evaluations in the Form of a
"Yes" or "No" Response, and Were Included as Part
of the Analysis of the Present Report

I. Question from TCATA Post-test Questionnaire: Field Artillery System.
(Completed by artillery evaluators)

74. Overall, which FA organization do you prefer?

H-Series _____

T-Series _____

II. Questions from field test data collection forms S-3-17: Daily FIST
Activity Report. (Completed by artillery evaluators)

1. Was every member of the FIST team able to devote not less than
6 hours per day to resting?

Yes _____ No _____

3. Did the FIST prepare fire support plans to support maneuver
operations?

Yes _____ No _____

4. Did the FIST share his duties with his NCO?

Yes _____ No _____

5. Did the fire support section experience problems in fire support
planning?

Yes _____ No _____

6. Did the fire support section experience other problems in
tactical operations?

Yes _____ No _____

7. Did the FIST chief plan targets for the maneuver company?

Yes _____ No _____

DISTRIBUTION

ARI Distribution List

4 OASD (M&RA)
 2 HQDA (DAMI-CSZ)
 1 HQDA (DAPE-PBR)
 1 HQDA (DAMA-AR)
 1 HQDA (DAPE-HRE-PO)
 1 HQDA (SGRD-ID)
 1 HQDA (DAMI-DOT-C)
 1 HQDA (DAPC-PMZ-A)
 1 HQDA (DACH-PPZ-A)
 1 HQDA (DAPE-HRE)
 1 HQDA (DAPE-MPO-C)
 1 HQDA (DAPE-DWI)
 1 HQDA (DAPE-HRL)
 1 HQDA (DAPE-CPS)
 1 HQDA (DAFD-MFA)
 1 HQDA (DARD-ARS-P)
 1 HQDA (DAPC-PAS-A)
 1 HQDA (DUSA-OR)
 1 HQDA (DAMO-RQR)
 1 HQDA (DASG)
 1 HQDA (DA10-PI)
 1 Chief, Consult Div (DA-OTSG), Adelphi, MD
 1 Mil Asst. Hum Res, ODDR&E, OAD (E&LS)
 1 HQ USARAL, APO Seattle, ATTN: ARAGP-R
 1 HQ First Army, ATTN: AFKA-OI TI
 2 HQ Fifth Army, Ft Sam Houston
 1 Dir, Army Stf Studies Ofc, ATTN: OAVCSA (DSP)
 1 Ofc Chief of Stf, Studies Ofc
 1 JCSPER, ATTN: CPS/OCP
 1 The Army Lib, Pentagon, ATTN: RSB Chief
 1 The Army Lib, Pentagon, ATTN: ANRAL
 1 Ofc, Asst Sect of the Army (R&D)
 1 Tech Support Ofc, OJCS
 1 USASA, Arlington, ATTN: IARD-T
 1 USA Resch Ofc, Durham, ATTN: Life Sciences Dir
 2 USARIEM, Natick, ATTN: SGRD-UE-CA
 1 USATTC, Ft Clayton, ATTN: STTTC-MO-A
 1 USAIMA, Ft Bragg, ATTN: ATSU-CTD-OM
 1 USAIMA, Ft Bragg, ATTN: Marquet Lib
 1 US WAC Ctr & Sch, Ft McClellan, ATTN: Lib
 1 US WAC Ctr & Sch, Ft McClellan, ATTN: Tng Dir
 1 USA Quartermaster Sch, Ft Lee, ATTN: ATSM-TE
 1 Intelligence Material Dev Ofc, EWL, Ft Holabird
 1 USA SE Signal Sch, Ft Gordon, ATTN: ATSO-EA
 1 USA Chaplain Ctr & Sch, Ft Hamilton, ATTN: ATSC-TE-RD
 1 USATSCH, Ft Eustis, ATTN: Educ Advisor
 1 USA War College, Carlisle Barracks, ATTN: Lib
 2 WRAIR, Neuropsychiatry Div
 1 DLI, SDA, Monterey
 1 USA Concept Anal Agcy, Bethesda, ATTN: MOCA-MR
 1 USA Concept Anal Agcy, Bethesda, ATTN: MOCA-JF
 1 USA Arctic Test Ctr, APO Seattle, ATTN: STEAC-PL-MI
 1 USA Arctic Test Ctr, APO Seattle, ATTN: AMSTE-PL-TS
 1 USA Armament Cmd, Redstone Arsenal, ATTN: ATSK-TEM
 1 USA Armament Cmd, Rock Island, ATTN: AMSAR-TDC
 1 FAA-NAFEC, Atlantic City, ATTN: Library
 1 FAA-NAFEC, Atlantic City, ATTN: Human Engr Br
 1 FAA Aeronautical Ctr, Oklahoma City, ATTN: AAC-440
 2 USA Fld Arty Sch, Ft Sill, ATTN: Library
 1 USA Armor Sch, Ft Knox, ATTN: Library
 1 USA Armor Sch, Ft Knox, ATTN: ATSB-DI-E
 1 USA Armor Sch, Ft Knox, ATTN: ATSB-DT-TP
 1 USA Armor Sch, Ft Knox, ATTN: ATSB-CD-AD
 2 HQUSACDEC, Ft Ord, ATTN: Library
 1 HQUSACDEC, Ft Ord, ATTN: ATEC-EX-E-Hum Factors
 2 USAEEC, Ft Benjamin Harrison, ATTN: Library
 1 USAPACDC, Ft Benjamin Harrison, ATTN: ATCP-HR
 1 USA Comm-Elect Sch, Ft Monmouth, ATTN: ATBN-EA
 1 USAEC, Ft Monmouth, ATTN: AMSEL-CT-HDP
 1 USAEC, Ft Monmouth, ATTN: AMSEL-PA-P
 1 USAEC, Ft Monmouth, ATTN: AMSEL-SI-CB
 1 USAEC, Ft Monmouth, ATTN: C, Feat Dev Br
 1 USA Materials Sys Anal Agcy, Aberdeen, ATTN: AMXSY-P
 1 Edgewood Arsenal, Aberdeen, ATTN: SAREA-BL-H
 1 USA Ord Ctr & Sch, Aberdeen, ATTN: ATSL-TEM-C
 2 USA Hum Engr Lab, Aberdeen, ATTN: Library/Dir
 1 USA Combat Arms Tng Bd, Ft Benning, ATTN: Ad Supervisor
 1 USA Infantry Hum Resch Unit, Ft Benning, ATTN: Chief
 1 USA Infantry Bd, Ft Benning, ATTN: STEBC-TE-T
 1 USASMA, Ft Bliss, ATTN: ATSS-LRC
 1 USA Air Def Sch, Ft Bliss, ATTN: ATSA-CTD-ME
 1 USA Air Def Sch, Ft Bliss, ATTN: Tech Lib
 1 USA Air Def Bd, Ft Bliss, ATTN: FILES
 1 USA Air Def Bd, Ft Bliss, ATTN: STEBD-PO
 1 USA Cmd & General Stf College, Ft Leavenworth, ATTN: Lib
 1 USA Cmd & General Stf College, Ft Leavenworth, ATTN: ATSW-SE-L
 1 USA Cmd & General Stf College, Ft Leavenworth, ATTN: Ed Advisor
 1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: DapCdr
 1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: CCS
 1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: ATCASA
 1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: ATCACC-E
 1 USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: ATCACC-LI
 1 USAECOM, Night Vision Lab, Ft Belvoir, ATTN: AMSEL-NV-60
 3 USA Computer Sys Cmd, Ft Belvoir, ATTN: Tech Library
 1 USAMERDC, Ft Belvoir, ATTN: STSFB-DQ
 1 USA Eng Sch, Ft Belvoir, ATTN: Library
 1 USA Topographic Lab, Ft Belvoir, ATTN: ETL TD-S
 1 USA Topographic Lab, Ft Belvoir, ATTN: STINFO Center
 1 USA Topographic Lab, Ft Belvoir, ATTN: ETL GSL
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: CTD MS
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-CTD-MS
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-TE
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-TEX-GS
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-CTS-OR
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-CTD-DT
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-CTD-CS
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: DAS/SRD
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-TEM
 1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: Library
 1 CDR, HQ Ft Huachuca, ATTN: Tech Ref Div
 2 CDR, USA Electronic Prog Grd, ATTN: STEEP-MT-S
 1 HQ, TCATA, ATTN: Tech Library
 1 HQ, TCATA, ATTN: ATCAT-OP-Q, Ft Hood
 1 USA Recruiting Cmd, Ft Sheridan, ATTN: USARCPM-P
 1 Senior Army Adv., USAFAGOD/TAC, Elgin AF Aux Fld No. 9
 1 HQ, USARPAC, DCSPER, APO SF 60646, ATTN: GPPE-SE
 1 Stimson Lib, Academy of Health Sciences, Ft Sam Houston
 1 Marine Corps Inst., ATTN: Deen-MCI
 1 HQ, USMC, Commandant, ATTN: Code MTMT
 1 HQ, USMC, Commandant, ATTN: Code MPI-20-28
 2 USCG Academy, New London, ATTN: Admission
 2 USCG Academy, New London, ATTN: Library
 1 USCG Training Ctr, NY, ATTN: CO
 1 USCG Training Ctr, NY, ATTN: Educ Sec Ofc
 1 USCG, Psychol Res Br, DC, ATTN: GP 1/62
 1 HQ Mid-Range Br, MC Det, Quantico, ATTN: P&S Div

1 US Marine Corps Liaison Ofc, AMC, Alexandria, ATTN: AMCGS-F
 1 USATRADOC, Ft Monroe, ATTN: ATRO-ED
 6 USATRADOC, Ft Monroe, ATTN: ATPR-AD
 1 USATRADOC, Ft Monroe, ATTN: ATTS-EA
 1 USA Forces Cmd, Ft McPherson, ATTN: Library
 2 USA Aviation Test Bd, Ft Rucker, ATTN: STEBG-PO
 1 USA Agcy for Aviation Safety, Ft Rucker, ATTN: Library
 1 USA Agcy for Aviation Safety, Ft Rucker, ATTN: Educ Advisor
 1 USA Aviation Sch, Ft Rucker, ATTN: PO Drawer O
 1 HQUSA Aviation Sys Cmd, St Louis, ATTN: AMSAV-ZDR
 2 USA Aviation Sys Test Act., Edwards AFB, ATTN: SAVTE-T
 1 USA Air Def Sch, Ft Bliss, ATTN: ATSA TEM
 1 USA Air Mobility Rsch & Dev Lab, Moffett Fld, ATTN: SAVDL-AS
 1 USA Aviation Sch, Res Tng Mgt, Ft Rucker, ATTN: ATST-T-RTM
 1 USA Aviation Sch, CO, Ft Rucker, ATTN: ATST-D-A
 1 HQ, DARCOM, Alexandria, ATTN: AMXCD-TL
 1 HQ, DARCOM, Alexandria, ATTN: CDR
 1 US Military Academy, West Point, ATTN: Serials Unit
 1 US Military Academy, West Point, ATTN: Ofc of Milt Ldrshp
 1 US Military Academy, West Point, ATTN: MAOR
 1 USA Standardization Gp, UK, FPO NY, ATTN: MASE-GC
 1 Ofc of Naval Rsch, Arlington, ATTN: Code 452
 3 Ofc of Naval Rsch, Arlington, ATTN: Code 458
 1 Ofc of Naval Rsch, Arlington, ATTN: Code 450
 1 Ofc of Naval Rsch, Arlington, ATTN: Code 441
 1 Naval Aerosp Med Res Lab, Pensacola, ATTN: Acous Sch Div
 1 Naval Aerosp Med Res Lab, Pensacola, ATTN: Code L51
 1 Naval Aerosp Med Res Lab, Pensacola, ATTN: Code L5
 1 Chief of NavPers, ATTN: Pers-OR
 1 NAVAIRSTA, Norfolk, ATTN: Safety Ctr
 1 Nav Oceanographic, DC, ATTN: Code 6251, Charts & Tech
 1 Center of Naval Anal, ATTN: Doc Ctr
 1 NavAirSysCom, ATTN: AIR-5313C
 1 Nav BuMed, ATTN: 713
 1 NavHelicopterSubSqua 2, FPO SF 96801
 1 AFHRL (FT) Williams AFB
 1 AFHRL (TT) Lowry AFB
 1 AFHRL (AS) WPAFB, OH
 2 AFHRL (DOJZ) Brooks AFB
 1 AFHRL (DOJN) Lackland AFB
 1 HQUSAF (INYSO)
 1 HQUSAF (DPXXA)
 1 AFVTG (RD) Randolph AFB
 3 AMRL (HE) WPAFB, OH
 2 AF Inst of Tech, WPAFB, OH, ATTN: ENE/SL
 1 ATC (XPTD) Randolph AFB
 1 USAF AeroMed Lib, Brooks AFB (SUL-4), ATTN: DOC SEC
 1 AFOSR (NL), Arlington
 1 AF Log Cmd, McClellan AFB, ATTN: ALC/DPCRB
 1 Air Force Academy, CO, ATTN: Dept of Bel Scn
 5 NavPers & Dev Ctr, San Diego
 2 Navy Med Neuropsychiatric Rsch Unit, San Diego
 1 Nav Electronic Lab, San Diego, ATTN: Res Lab
 1 Nav TrngCen, San Diego, ATTN: Code 9000-Lib
 1 NavPostGraSch, Monterey, ATTN: Code 55Aa
 1 NavPostGraSch, Monterey, ATTN: Code 2124
 1 NavTrngEquipCtr, Orlando, ATTN: Tech Lib
 1 US Dept of Labor, DC, ATTN: Manpower Admin
 1 US Dept of Justice, DC, ATTN: Drug Enforce Admin
 1 Nat Bur of Standards, DC, ATTN: Computer Info Section
 1 Nat Clearing House for MH-Info, Rockville
 1 Denver Federal Ctr, Lakewood, ATTN: BLM
 12 Defense Documentation Center
 4 Dir Psych, Army Hq, Russell Ofcs, Canberra
 1 Scientific Advsr, Mil Bd, Army Hq, Russell Ofcs, Canberra
 1 Mil and Air Attache, Austrian Embassy
 1 Centre de Recherche Des Facteurs Humains de la Defense Nationale, Brussels
 2 Canadian Joint Staff Washington
 1 C/Air Staff, Royal Canadian AF, ATTN: Pers Std Anal Br
 3 Chief, Canadian Def Rsch Staff, ATTN: C/CRDS(W)
 4 British Def Staff, British Embassy, Washington
 1 Def & Civil Inst of Enviro Medicine, Canada
 1 AIR CRESS, Kensington, ATTN: Info Sys Br
 1 Militærpsykologisk Tjeneste, Copenhagen
 1 Military Attache, French Embassy, ATTN: Doc Sec
 1 Medecin Chef, C.E.R.P.A.-Arsenal, Toulon/Naval France
 1 Prin Scientific Off, Appl Hum Engr Rsch Div, Ministry of Defense, New Delhi
 1 Pers Rsch Ofc Library, AKA, Israel Defense Forces
 1 Ministeris van Defensie, DOOP/KL Afd Sociaal Psychologische Zaken, The Hague, Netherlands